Claims

1. An implantable heart valve sewing prosthesis, the device comprising a ring shaped body having an external surface including an intrinsically conductive polymer having a resistivity of less than about 2000 ohms per square.

2. The device of claim 1, in which the device is an annuloplasty ring, wherein the ring shaped body is substantially closed upon itself.

3. The device of claim 1, in which the device is an annuloplasty band, wherein the ring shaped body has an annular gap and is not closed upon itself.

4. The device of claim 1, in which the device is a prosthetic heart valve sewing ring.

5. The device of claim 1, in which the device includes a fabric sheath forming at least part of the ring external surface, in which the fabric incorporates the intrinsically conductive polymer.

6. The device of claim 1, in which the intrinsically conductive polymer has a resistivity of less than 1000 ohms per square.

7. A blood contacting implantable biomedical device comprising an external surface having an intrinsically conductive polymer layer, wherein the device is selected from the group consisting of heart valve annuloplasty rings, heart valve annuloplasty bands, mechanical prosthetic heart valves, and bioprosthetic heart valves.

8. The device of claim 7, in which the device external surface includes a fabric having the polymer layer formed thereover.

9. The device of claim 8, in which the fabric is formed of a plurality of individual filaments, in which the polymer layer is at least in part formed by a polymer coating over the individual filaments.

10. The device of claim 8, in which the fabric is formed of a plurality of individual filament bundles formed of a plurality of filaments, in which the polymer layer is at least in part formed by a polymer coating over the individual filament bundles.

11. The device of claim 8, in which the fabric is formed of a plurality of individual fibers formed of a plurality of filament bundles formed of a plurality of filaments, in which the polymer layer is at least in part formed by a polymer coating over the individual fibers.

12. The device of claim 8, in which the polymer layer is a product of in situ polymerization on the fabric.

13. The device of claim 8, in which the fabric is formed at least in part by filaments of integrally formed intrinsically conductive polymer.

14. The device of claim 7, in which the polymer layer comprises polypyrrole.

15. The device of claim 7, in which the polymer layer comprises a polypyrrole derivative.

16. The device of claim 7, in which the polymer layer has a surface resistivity between about 10 and 1000 ohms per square.

17. The device of claim 7, in which the polymer layer includes a polymer selected from the group consisting of polyaniline, polypyrrole, poly(vinylferrocene), polyactelyne, polythiophene, polybithiophene, and derivatives and combinations thereof.

18. The device of claim 7, in which the polymer layer includes a polymer selected from the group consisting of polypyrrole and derivatives thereof.

19. The device of claim 18, in which the polymer is doped with dialkyl-napthalene sulfonate.

20. An annuloplasty prosthesis for implanting in a heart valve annulus in a patient, the annuloplasty prosthesis comprising a ring shaped body comprising an intrinsically conductive polymer.

21. The annuloplasty prosthesis of claim 20, in which the ring shaped body has an external surface having an intrinsically conductive polymer coating over at least part of the surface.

22. The annuloplasty prosthesis of claim 20, in which the ring shaped body has an external surface comprising fabric, wherein the fabric comprises an intrinsically conductive polymer.

23. The annuloplasty prosthesis of claim 22, in which the intrinsically conductive polymer forms a layer over the fabric.

24. The annuloplasty prosthesis of claim 23, in which the polymer is selected from the group consisting of polypyrrole and derivatives thereof.

25. The annuloplasty prosthesis of claim 24, in which the polymer is doped with dialkyl-napthalene sulfonate.

26. The annuloplasty prosthesis of claim 20, in which the intrinsically conductive polymer has a resistivity of less than 1000 ohms per square.

27. A prosthetic heart valve for implanting in a patient, the heart valve comprising:

an annular housing having a flow channel therethrough for the passage of blood, an inside surface forming the flow channel for blood, and an outside surface for facing heart tissue;

a valve flow control member moveably secured to the housing and having an open position and a closed position; and

a ring shaped body disposed about the annular housing outside surface, wherein the ring shaped body has external surface comprising an intrinsically conductive polymer.

28. The prosthetic heart valve of claim 27, in which the flow control member includes a leaflet pivotally coupled to the housing.

29. The prosthetic heart valve of claim 27, in which the ring shaped body external surface has the intrinsically conductive polymer present as a coating over at least part of the external surface.

30. The prosthetic heart valve of claim 27, in which the ring shaped body has an external surface comprising fabric, wherein the fabric includes the intrinsically conductive polymer.

31. The prosthetic heart valve of claim 30, in which the intrinsically conductive polymer forms a layer over the fabric.

32. The prosthetic heart valve of claim 31, in which the polymer is selected from the group consisting of polypyrrole and derivatives thereof.

33. The prosthetic heart valve of claim 32, in which the polymer is doped with dialkyl-napthalene sulfonate.

34. The prosthetic heart valve of claim 27, in which the intrinsically conductive polymer has a resistivity of less than 1000 ohms per square.

35. A stented bioprosthetic heart valve for implanting in a patient, the heart valve comprising:

an annular housing having a flow channel therethrough for the passage of blood, an inside surface forming the flow channel for blood, and an outside surface for facing heart tissue;

at least one moveable tissue leaflet secured to the housing and having an open position and a closed position; and

a ring shaped body disposed about the annular housing outside surface, wherein the ring shaped body has external surface comprising an intrinsically conductive polymer.

36. The stented bioprosthetic heart valve of claim 35, in which the ring shaped body external surface has the intrinsically conductive polymer present as a coating over at least part of the external surface.

37. The stented bioprosthetic heart valve of claim 35, in which the ring shaped body has an external surface comprising fabric, wherein the fabric includes the intrinsically conductive polymer.

38. The stented bioprosthetic heart valve of claim 37, in which the intrinsically conductive polymer forms a layer over the fabric.

39. The stented bioprosthetic heart valve of claim 38, in which the polymer is selected from the group consisting of polypyrrole and derivatives thereof.

40. The stented bioprosthetic heart valve of claim 39, in which the polymer is doped with dialkyl-napthalene sulfonate.

41. The stented bioprosthetic heart valve of claim 35, in which the intrinsically conductive polymer has a resistivity of less than 1000 ohms per square.